

**Amendments to the Claims:**

1. **(Currently amended)** A field interpolation method determination device (6,8a) for determining whether to perform either an inter-field interpolation method or an intra-field interpolation method ~~to combine on~~ fields of an inputted interlaced signal (Vin) ~~into frames and thereby~~ to provide conversion to a progressive signal (Vpr), the device comprising:

pixel level difference detection means (6,81) for detecting a pixel level difference (SpA) between the input interlaced signal (Vin) and a 1-field delay input interlaced signal (Vd1) obtained by delaying the input interlaced signal (Vin) by one field;

field correlation detection means (6,81,82,83,84) for detecting correlation between the input interlaced signal (Vin) and the 1-field delay input interlaced signal (Vd1) based on the pixel level difference (SpA), and outputting ~~N-1~~ inter-field correlation determination signals (Df);

~~inter-field difference correlation~~ storage means (85,86,87,88) for storing ~~the~~<sup>N-1</sup> inter-field correlation determination signals (Df:R1,R2,R3,R4) ~~corresponding to N sequential fields of the input interlaced signal;~~

field/frame correlation determination means (89,90) for determining, based on a pattern of values (R1,R2,R3,R4) of the ~~N-1~~ inter-field ~~difference correlation~~ determination signals, whether ~~two sequential fields among the N sequential fields are generated from a same frame or different frames either 2-2 or 2-3 pulldown-converted~~; and

interpolation method determination means (91) for determining, as an interpolation method, inter-field interpolation if the fields are determined to have been ~~generated from the same frame either 2-2 or 2-3 pulldown-converted~~, or intra-field interpolation if the fields are determined to have been ~~generated from the different frames neither 2-2 nor 2-3 pulldown-converted~~.

2. **(Original)** A field interpolation method determination device (6,8a) according to claim 1, further comprising interpolation method determination delay means (92,93) for delaying

a determination of the interpolation method by the interpolation method determination means (91) by a predetermined time period.

3. **(Original)** A field interpolation method determination device according to claim 2, wherein the predetermined time period is determined based on a time lag from when the interpolation method of the inputted fields are determined until an interpolation process is actually performed.

4. **(Original)** A field interpolation method determination device according to claim 3, wherein the predetermined time period is determined to be around 0.5 seconds based on mechanical/electrical characteristics of the field interpolation method determination device and a device which carries out the field interpolation process.

5. **(Currently amended)** A field interpolation method determination device (6,8a) according to claim 2\_1, ~~wherein further comprising~~ counter means (92) increments by one count if the fields are determined to have been generated from the same frame either 2-2 or 2-3 pulldown-converted, resets a count value (CDs) if they are determined to have been generated from the different frames neither 2-2 nor 2-3 pulldown-converted, or maintains the count value if otherwise, and wherein

the interpolation method determination means (93) selects the inter-field interpolation if the count value (CDs) is greater than a predetermined value, or selects the intra-field interpolation if the count value (CDs) is less than or equal to the predetermined value.

6. **(Currently amended)** A field interpolation method determination device (6,8a) according to claim 1, wherein if the input interlaced signal (Vin) is a 2-3 pulldown signal pulldown-converted, N is equal to or more than 6.

7. **(Currently amended)** A field interpolation method determination device (6,8a) according to claim 1, wherein if the input interlaced signal ( $V_{in}$ ) is a 2-2-pulldown signal pulldown-converted,  $N$  is equal to or more than 5.

8. **(Currently amended)** A field interpolation method determination device (6,8a) according to claim 1, wherein if at least two sequential signals among the  $N-1$  inter-field correlation determination signals ( $R_1, R_2, R_3, R_4$ ) indicate absence of correlation, the field/frame correlation determination means (89,90) determines that the two sequential fields have been generated from the different frames the input interlaced signal have been neither 2-2 nor 2-3 pulldown-converted.

9. **(Currently amended)** A field interpolation method determination device (6,8a) according to claim 1, wherein if the  $N-1$  inter-field correlation determination signals ( $R_1, R_2, R_3, R_4$ ) alternately indicate presence and absence of correlation, the field/frame correlation determination means (89,90) determines that the two sequential fields have been generated from the same frame the input interlaced signal have been either 2-2 or 2-3 pulldown-converted.

10. **(Original)** A field interpolation method determination device (6,8a) according to claim 1, wherein the field correlation detection means (6,81,82,83,84) includes:

pixel difference determination means (82) for determining for each pixel whether the pixel signal level difference ( $S_{pA}$ ) is greater than a first threshold ( $X$ ) which indicates a predetermined pixel level and outputting a pixel unit level difference determination result ( $D_p$ ) represented by a binary value;

field unit level difference determination means (83) for adding one field to the pixel unit level difference determination result ( $D_p$ ), and outputting a field unit level difference determination result ( $CD_p$ ); and

inter-field correlation determination means (84) for determining whether inter-field correlation is significant based on whether the field unit level difference determination result (CDp) is greater than a second threshold (Y) indicating a predetermined number of pixels.

11. **(Original)** A field interpolation method determination device (6,8a) according to claim 10, wherein

the inter-field difference determination means (6,81,82,83,84) further includes:

signal level detection means (94b) for detecting a signal level (PL) indicating brightness of an image represented by the 1-field delay input interlaced signal (Vd1); and

first threshold change means (95b) for changing the first threshold (Xb) based on a value of the signal level (PL).

12. **(Original)** A field interpolation method determination device (6,8a) according to claim 10, wherein

the inter-field difference determination means (6,81,82,83,84) further includes:

signal level detection means (94b) for detecting a signal level (PL) indicating brightness of an image represented by the 1-field delay input interlaced signal (Vd1); and

second threshold change means for changing the second threshold (Y) based on a value of the signal level (PL).

13. **(Currently amended)** A field interpolation method determination device (6,8c,10) according to claim 1, wherein

the inter-field difference determination means (6,81,82,83,84) further includes:

field identification means (10) for outputting, based on the 1-field delay input interlaced signal (Vd1), a field identification signal (Doe) which indicates whether a field of the 1-field delay input interlaced signal (Vd1) is an even field or an odd field; and

an AND circuit (96c) for calculating a logical product (Dfa) of the field identification signal (Doe) and the inter-field correlation determination signal (Df), and outputting the product to the N-inter-field difference storage means (85-88).

14. **(Original)** A field interpolation method determination device (6,8c,10,22d,24d) according to claim 13, wherein the inter-field difference determination means (6,81,82,83,84) further includes:

an inverter (22d) for outputting a reversed signal (nDoe) of the field identification signal (Doe); and

a field identification signal reverse switch (24d) for selectively outputting either the field identification signal (Doe) or the reversed signal (nDoe) to the AND circuit (96c).